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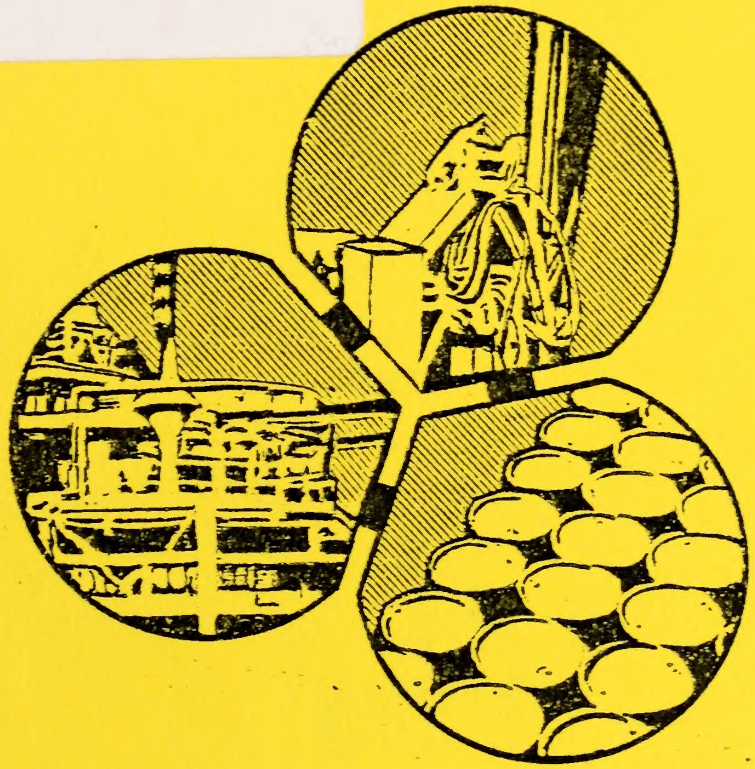

UINTAH BASIN SYNFUELS DEVELOPMENT

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UINTAH BASIN SYNFUELS

EIS SCOPING REPORT

January 1982

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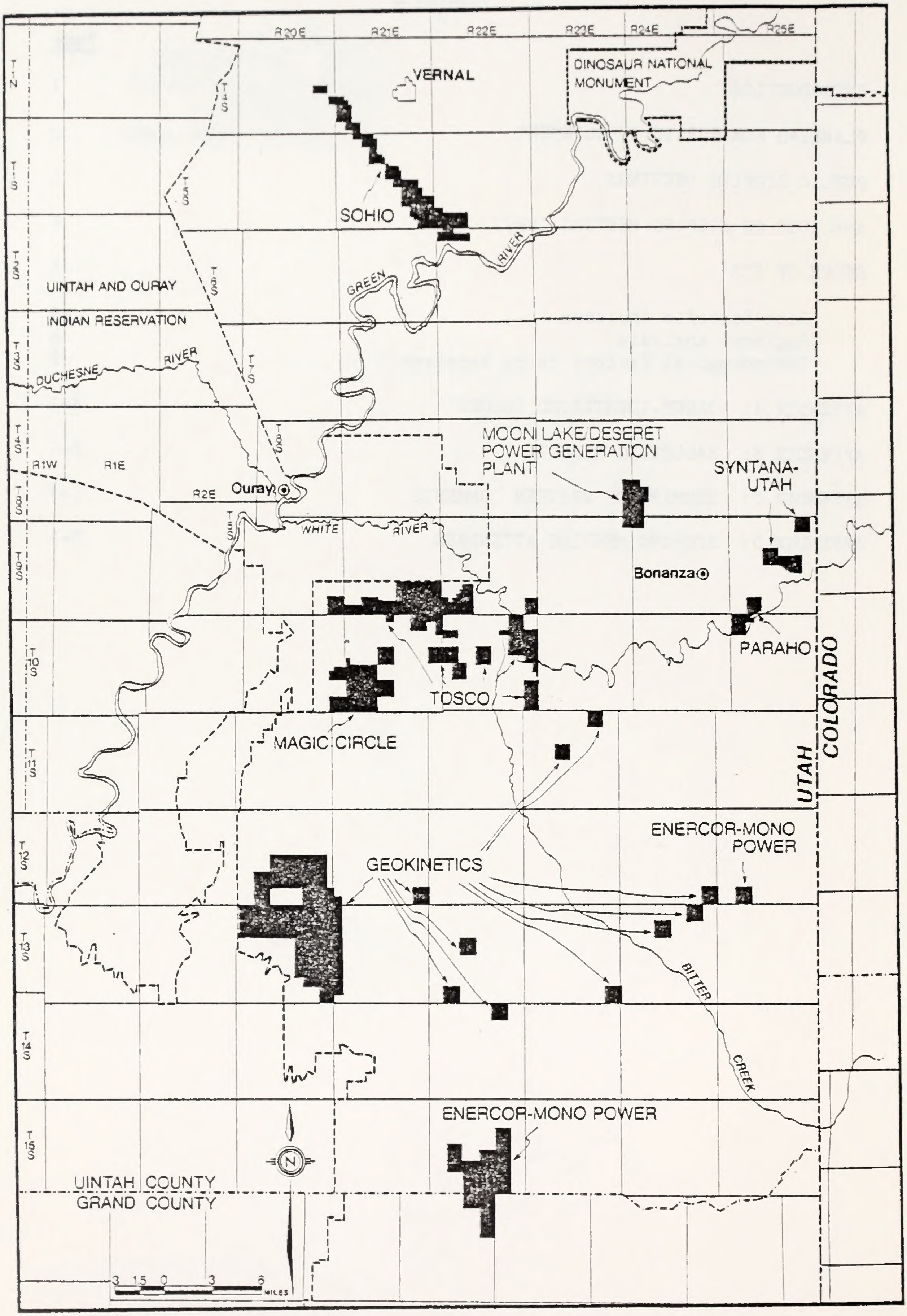


MAP 1 LOCATIONS OF THE PROPOSED UINTAH BASIN SYNFUELS PROJECTS

UINTAH BASIN SYNFUELS EIS SCOPING REPORT

Seven synthetic fuels development projects are proposed for the Uintah Basin area of Utah. These include five oil shale processing facilities sponsored by Magic Circle Energy Corporation 31,500 barrels per day (bpd) , Paraho Development Corporation (42,000 bpd), Syntana-Utah (57,000 bpd), Tosco Development Corporation (45,000 bpd) and Geokinetics, Inc. (Agency Draw, a surface retort facility, would produce from 5,700 to 20,000 bpd; Lofreco, an in-situ retort facility, would produce 50,000 bpd) and two tar sand processing facilities sponsored by Enercor-Mono Power Company (Rainbow - 5,000 bpd; P.R. Springs - 50,000 bpd) and Sohio Shale Oil Company (20,000 bpd).

Map 1 shows the general location of each project. All seven companies propose to begin construction of either a pilot or commercial plant in 1982 or 1983 (there are two arrows pointing to Tract #33; Enercor-Mono Power has a tar sands lease there and Geokinetics has an oil shale lease). Initial operation would begin in 2 to 7 years, depending on an individual project's current stage of development.

Although the projects would be located primarily on State and private land, the project sponsors must obtain rights-of-way across Federal land for water and product pipelines, access roads, and transmission lines. Whenever the Federal government considers approving or disapproving significant actions on areas under its jurisdiction, an environmental impact statement (EIS) must be prepared. An EIS is written to comply with the National Environmental Policy Act (NEPA) and to ensure Federal officials have sound information on the consequences of a proposed action before a decision is reached.

The Bureau of Land Management (BLM) has been designated as the Federal agency responsible for preparing the environmental impact statement and will work in cooperation with the State of Utah. An advisory steering committee composed of Federal, State, and local officials will provide guidance to BLM throughout the process. In addition, the Environmental Protection Agency, U.S. Fish and Wildlife Service, U.S. Forest Service, U.S. Geological Survey, Bureau of Reclamation, Bureau of Indian Affairs, and National Park Service will contribute information and personnel to help in preparing the EIS as part of their roles as "cooperating Federal agencies."

The first step in preparing an EIS is called "scoping." The scope of an EIS is the range of actions, alternatives, and impacts to be included in the document. The purpose of scoping is to determine the significant issues related to a proposed action which should be included in the EIS. Scoping is designed to reduce some of the past inefficiencies associated with EIS preparation. Its basic goal is to make environmental impact statements concise and meaningful to persons in the Federal government who must make decisions on the proposal, as well as those in State and local government, and the people who may be affected by approval or disapproval of the proposal or its alternatives.

The scoping process used by the BLM for the Uintah Basin Synfuels Development EIS involved several phases: planning for public involvement, sponsoring public scoping meetings, analyzing scoping meeting input, soliciting steering committee input, analyzing all identified concerns, and determining the scope of the EIS. This report summarizes the key developments related to each of these phases.

PLANNING FOR PUBLIC INVOLVEMENT

Following receipt of the seven right-of-way applications in June 1981, the BLM Utah State Office and BLM Environmental Impact Statement Office (EIS Office) began to plan for public involvement in the scoping process. Scoping meetings were arranged for the three communities that would be most affected by and/or involved in the development of the projects - Vernal and Salt Lake City, Utah, and Rangely, Colorado (Table 1).

The scoping meetings and the availability of background information on the projects were publicized through radio, television, and newspaper announcements in Salt Lake City and the Uintah Basin area, posted handbills in Rangely, Colorado, and a Federal Register notice. As a result of this publicity, approximately 70 requests for the background information were filled prior to the scoping meetings.

PUBLIC SCOPING MEETINGS

The purpose of the scoping meetings was to provide an opportunity for the attendees to discuss their concerns about the proposed projects and to identify the significant issues that should be addressed in the EIS. The object was not to seek public support for or opposition to the proposed projects. The meetings were hosted by the BLM Vernal District Manager.

The agenda of the Vernal and Salt Lake City meetings was very similar and is discussed in detail below. The agenda of the Rangely meeting was modified at the request of the attendees, because only three people who had not participated in the earlier Vernal meeting were present. The Rangely attendees chose to have an informal discussion-type meeting and the major points that were raised there were recorded by a BLM representative.

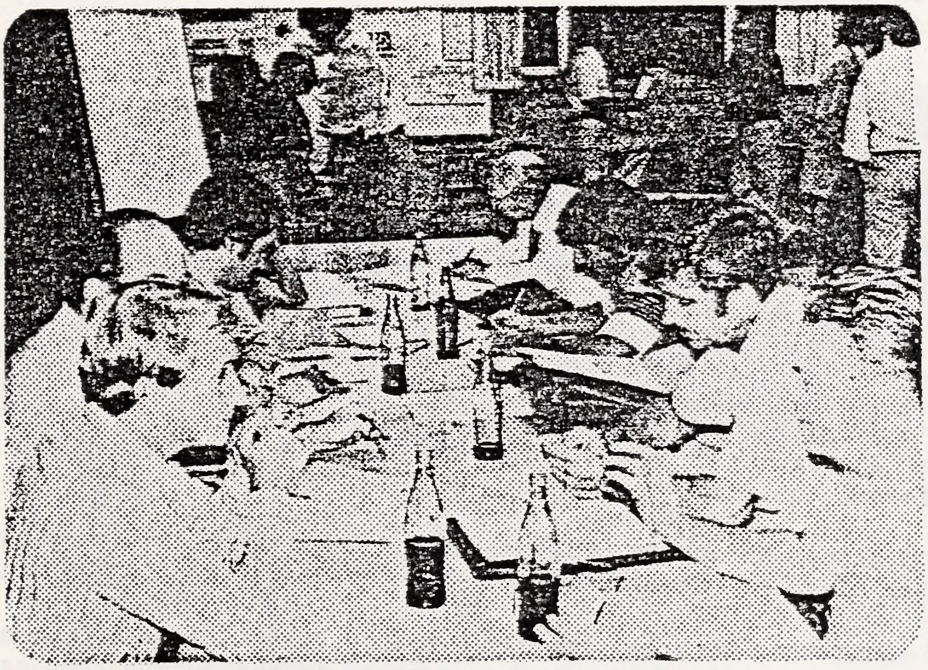
The more formal Vernal and Salt Lake City meetings included presentations of background information followed by a question and answer period and a discussion session for which the large group was divided into smaller "work groups." The formal presentation period included short talks by BLM and State of Utah personnel on the EIS process, Federal, State, and local involvement through the steering committee, decision-making procedures, and descriptions of the seven proposed projects. (An information package that addressed most of these topics was handed out at the beginning of each meeting.)

The formal question and answer period was quite short at all meetings, although many additional questions were posed during the break that followed. BLM, State of Utah, and company representatives were available to answer questions at the Vernal and Salt Lake City meetings. State representatives were not present at the Rangely meeting.

The key part of the Vernal and Salt Lake City scoping meetings was the work group session when the large group broke up into one or more smaller groups. The work group format was used to ensure everyone had an equal opportunity to express their views, as it was felt that many people feel more comfortable speaking in a small group than in a large one.

TABLE 1
SCOPING MEETING LOCATIONS

Date	Time	Location
August 4	7:00 p.m.	Golden Age Center Vernal, Utah
August 5	7:00 p.m.	Northwest Community College Rangely, Colorado
August 6	7:00 p.m.	Salt Palace Salt Lake City, Utah



A work group discusses issues at the Vernal, Utah, meeting.

At the Vernal meeting, two work groups were formed - one for applicant representatives and one for citizens and Federal, State, and local officials. At the Salt Lake City meeting, only one group was formed, consisting of citizens, organization representatives, and Federal and State officials. No applicant group was formed, because all the companies were represented in the applicant group formed at the Vernal meeting.

All work groups followed the same procedures, which were outlined in the information packet given to each attendee. First, each person worked independently and listed on a sheet of paper issues that were of concern related to the project proposals. Next, in round-robin fashion, each person was given the opportunity to identify the issues he/she had listed. The issues were written on a large sheet of paper and then discussed. When the discussion concluded, each person listed on a ballot in priority order the three issues he/she felt were most significant. The ballots and group issues sheets were collected at the conclusion of the meeting.

ANALYSIS OF SCOPING MEETING INPUT

The issue sheets and ballots from each work group were analyzed to identify issues of concern that should be considered in the EIS. The items from the work group issue sheets are listed in Appendix A. The balloting results are detailed in Appendix B. Summaries of this information are presented in Tables 2 and 3. Some concerns that were raised by the work groups are not related to impacts or issues appropriately included in an EIS; for example, possible duplication of studies completed by the applicants and BLM. These concerns are identified by an asterisk on Table 3.

The procedures used to analyze the issue sheets and ballots are outlined below:

1. Items from each work group list, regardless of the number of votes received, were separated into six major issue groups: socioeconomics, water resources, fish and wildlife, air quality, project descriptions, and miscellaneous. A total of 57 items were classified. Those that did not receive any votes were eliminated from further analysis.

2. For each of the major groups, similar issues were combined into a single issue description. The votes were then tabulated for the combined issue. The combination of similar issues was subjective, so it is likely that other approaches to classifying the items would result in a slightly different outline.

3. Major groups and their combined issues were then listed according to number of votes received to show relative levels of interest and concern.

4. BLM management was also consulted to determine issues of concern. Those identified in addition to the ones named in the public scoping meetings are shown on Table 3.

TABLE 2

WORK GROUP PARTICIPATION

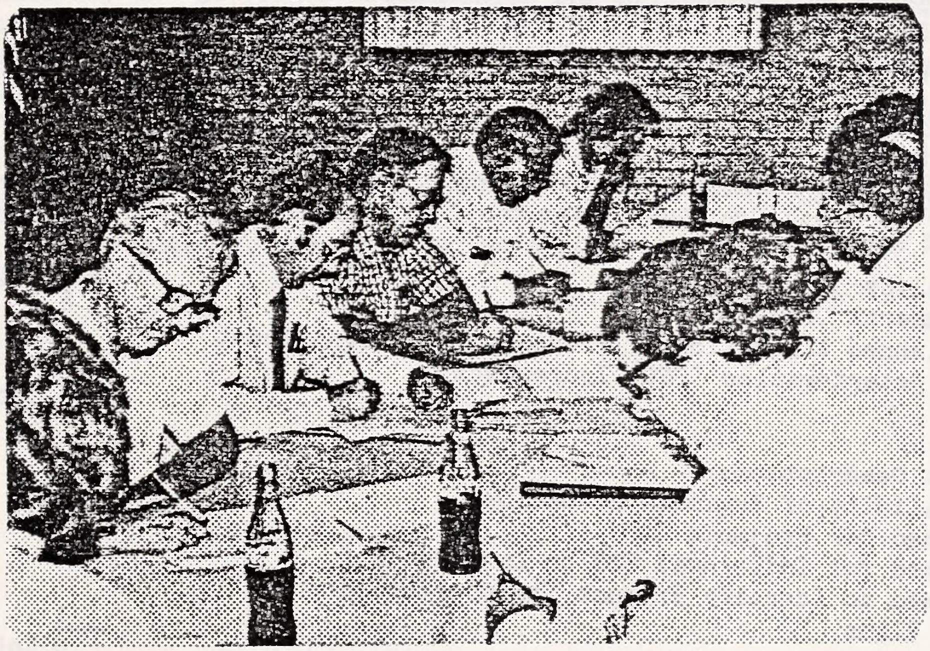
Scoping Meeting	Attendees	Ballots Received	Work Groups	Issues Identified[c]
Vernal	34	18	2	34
Rangely	8	0	0[a]	0[a]
Salt Lake City	29	8	1[b]	23
Total	71	26	3	57

---

[a] No work groups were formed, because only 3 of the attendees had not participated in a Vernal work group. An informal group discussion was held instead.

[b] One work group was formed, because only 8 people were not associated with the project applicants. (The concerns of project applicants were scoped at the Vernal meeting.)

[c] These numbers include duplication; some issues were identified on the work sheets of more than one group.



Work group votes for the three most significant issues.

TABLE 3

SUMMARY OF BALLOTING

Issues	Votes
Socioeconomics	
General Concerns	12
*Funding for Mitigation	5
*Adequacy of Local Planning Structure	5
*Need for Cooperatively Developed Mitigation Programs	5
*Provision for Affordable Housing	2
Adequate Identification of Baseline Social Service Levels	1
Future Need for Social Services	1
*Resolution of City/Water District Controversy	1
	32 Total
Water Resources	
Adequacy of Available Water Sources	12
Project Effects on Water Quality	4
Planned Allocation of Water Rights	2
	18 Total
Fish and Wildlife	
General Concerns	7
Impacts on Consumptive and Nonconsumptive Uses	1
Impacts to Crucial and Critical Wildlife Areas	1
Effects of Flow Reductions and Water Quality Changes	1
Increased Potential for Poaching	1
	11 Total
Air Quality	
General Concerns	6
Planned Allocation of Prevention of Significant Deterioration (PSD) Increments	1
	7 Total
Project Descriptions	
*Validity of Regional Scenarios	2
Need for Projects	1
*Need for Individual EIS on Each Project	1
Need to Identify Product Transportation Plans	1
	5 Total

TABLE 3 - Continued

Miscellaneous	
Reclamation Standards	3
*Potential Redundancy of Studies and Analyses	3
Increased Recreation Requirements	1
Historical and Cultural Resource Protection	1
Impacts of Spent Shale and Hazardous Waste Disposal	1
*BLM's Ability to Do Adequate Study in One Year	1
Identification of Impacts if One or Two Projects Come on Line	1
*Should Commercial Aspects of Synfuels Be Major Concern?	1
	12 Total

Additional Items of Concern Identified by BLM

Road access and consolidated transportation opportunities.
Corridor utilization for linear rights-of-way.
Public land resource protection and/or user opportunities.

---

*These concerns will be considered by the BLM but are not appropriate topics to be included in an EIS.

NOTE: There is not a direct correlation between the number of ballots and number of votes, because several groups classified issues differently. For example, one group listed environmental issues, including water, air quality, and fish and wildlife concerns, under one heading. Therefore, many ballots from this group listed one vote for the combined three issues. Other groups listed these three items separately, so ballots from these groups listed votes for the issues separately. In the compilation of votes from all groups, air quality, water quality, and fish and wildlife concerns were listed separately, and one vote for the combined environmental issue was tallied as one vote for air quality, one vote for water quality, and one vote for fish and wildlife.

SCOPE OF EIS

The scope of the Uintah Basin Synfuels Development EIS was derived from issues and priorities identified through the public scoping meetings, input from the Uintah Basin Synfuels Development Steering Committee, and preliminary research done by the EIS preparers (resource specialists from the Bureau of Land Management). Letters and other written submissions were also considered (see Appendix C).

The EIS will assess the impacts of seven proposed synfuels development projects. The analysis will be conducted on two levels - site-specific and regional. A site-specific impact assessment will be completed for each of the five projects that are furthest along in their project design and require immediate action on their Federal rights-of-way applications (Enercor-Mono Power - Rainbow, Magic Circle, Paraho, Syntana-Utah, and Tosco). A regional cumulative impact assessment will be completed for the site-specific projects plus additional conceptual projects (Geokinetics, Enercor-Mono Power - P.R. Springs, and Sohio Shale Oil) and other major developments planned for the Uintah Basin area during the lives of the projects (1982-1995).

SITE-SPECIFIC ANALYSES

The site-specific analyses will assess impacts due to project construction, operation and maintenance, and abandonment. The project components to be considered include, but may not be limited to, the mine, material handling facilities, ore preparation facilities, ore processing and upgrading facilities, spent ore disposal sites, product transportation systems, and ancillary facilities such as access roads, transmission lines, and communication systems. Operation impacts will be assessed beginning with the mining of the oil shale or tar sand ore to the delivery of the synthetic fuel product to the designated market(s), refineries, or pipelines insofar as such markets are known.

The types of alternatives that will be considered for each site-specific proposed action include the no-action alternative (decision not to grant required Federal permits or rights-of-way), design alternatives (component- such as alternative product transportation systems or shale disposal; process - such as alternative retort process, waste water treatment, shale preparation; or partial implementation), place alternatives (alternative water and electrical power source and right-of-way routes), and time alternatives (phased development, delayed implementation, or partial implementation). Land exchange or block up alternatives and minor on-site alternatives, such as mining variation or structure locations, will not be considered.

REGIONAL ANALYSIS

The regional part of the EIS will be presented as two production-level scenarios (low and high). They will be analyzed at two points in time, peak construction and peak operation. There will be two parts to the impact analysis at each of these points. The parts will be as follows:

1. Impact of all the applicants that are part of the scenario.

2. Impact of the applicants plus all other interrelated projects. The White River Shale Project, for the purposes of the regional analysis, will be placed in the "other project" category.

The low-level production scenario will assume that all seven proposed projects will be developed to a break-even level (less than full production) that could be sustained over a period of time. Most of the project sponsors indicated a low-level production was not realistic and expressed their need to move to full production capacity. The sponsors furnished production estimates (with individual qualifications and assumptions) resulting in a combined total of 121,000 bpd. The low-level scenario will consider the cumulative effects of the projects at these production levels plus other projects (the White River Shale Project and others, see Appendix A), that are existing or planned for the Uintah Basin area.

The high-level scenario will assume that all seven proposed projects will be developed to their full production levels during the analysis period and reach this peak at 1995. It will consider the cumulative effects of these projects and other projects (see Appendix A), that are existing or planned for the Uintah Basin area. The total production level for the seven proposed projects for this scenario will be approximately 320,500 bpd.

ENVIRONMENTAL FACTORS TO BE ASSESSED

Based on the issues and concerns identified during the scoping process, the EIS will place the most emphasis on the impact analysis of the following environmental factors: socioeconomics, water resources, air quality, and fish and wildlife. Other topics will be covered in the EIS but in less detail.

The scope of the impact analysis for each of the major environmental factors is outlined below:

Socioeconomics

The socioeconomics analysis will focus on impacts from the influx of construction and operation workers on the communities in the Uintah Basin area, including western Colorado as appropriate. Areas to be considered include, but may not be limited to, housing, schools, transportation systems, social services, and the justice system. Impacts on existing land use plans also will be considered.

Water Resources

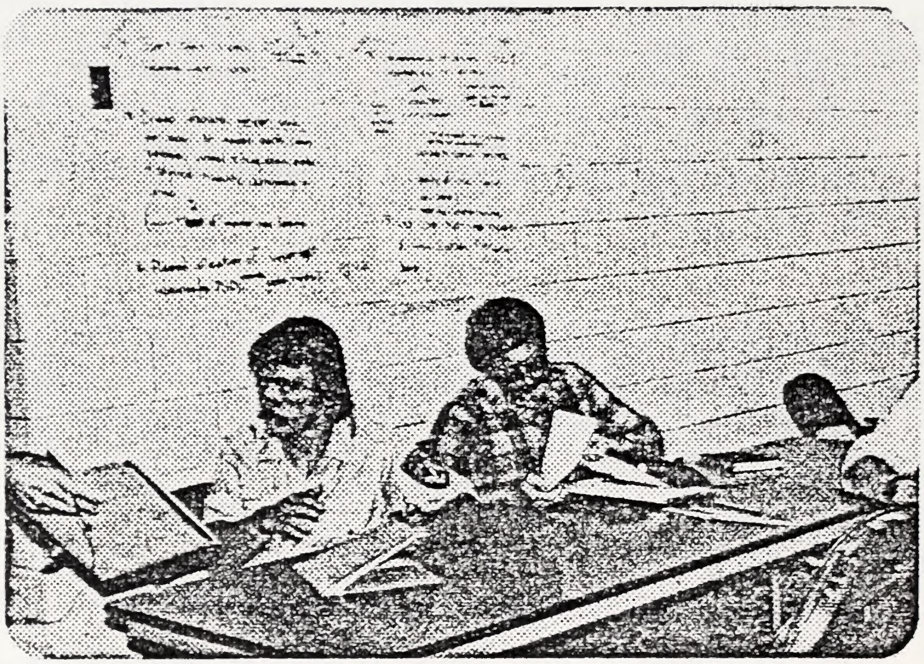
The water resource analysis will focus on the ability of existing water resources (Green and White rivers) to adequately meet the needs of industry and communities. In addition, the effects of project construction and operation on water quality will be addressed, including effects of erosion, sedimentation, spent shale disposal leachate, and reduction of stream flow.

Air Quality

The air quality analysis will focus on the cumulative regional effects of synfuels development in the Uintah Basin. However, levels of impact at individual project sites will also be considered. Close attention will be paid to potential effects on the east half of Dinosaur National Monument (an area with a Colorado Category I designation). The modeling and development of this analysis will be closely coordinated with the Environmental Protection Agency and the states of Utah and Colorado.

Fish and Wildlife

The biological impact assessment will consider the potential effects on endangered fish in the Green and White rivers (Colorado squawfish, humpback chub, and bonytail chub), an endangered plant (Uintah Basin hookless cactus), and possibly one endangered mammal (black-footed ferret). Potential effects resulting from streamflow reductions and water quality changes on the rivers and surrounding habitat are of particular concern. The secondary impacts of project-related human population growth on wildlife will also be considered, with close attention to crucial and critical habitat in the Book Cliffs, Green River, and White River areas.



Work groups were composed of industry, State and Federal personnel, private individuals, and environmental groups.

APPENDIX A

GROUP-IDENTIFIED ISSUES

VERNAL GROUP 1 (composed of applicants only)

1. Reclamation standards versus project life and water resources
2. Socioeconomic issues
   - housing
   - schools
   - utilities
   - recreation
   - roads
   - law enforcement
   - medical services
   - social services
3. Water resources
4. Environmental issues
   - air quality
   - water quality
   - wildlife
5. Validity of projects (need for realism of scenarios)
6. Public financing (time phasing)
7. Local planning structure adequacy
8. Potential redundancy of studies and analyses

VERNAL GROUP 2

1. Up-front funding available to communities
2. Describe need for proposed actions
3. Perpetuation of quality of wildlife
*4. Adequate provision for community services
5. Increased recreation requirements on Forest Service lands
6. Socioeconomics: Schools, population increase
7. Socioeconomics: Quality of life for present population
*8. Maintain present air quality standards
*9. Provisions for facilities and services for expanded population
10. Transportation plans for product
11. Impacts to medical facilities, law enforcement, education, water and sewer services, power, housing, transportation systems
*12. Transportation needs to get to project sites
*13. City and county planning
14. Adequate water over lifetime of projects (above present baseline)
15. Split city and water districts
*16. Increased demand for consumptive use of wildlife
17. Zoning and land use planning (multiple use plan)
*18. Factual baseline of air quality and visibility data
*19. By-pass highway route for Vernal
*20. Identification of fiscal impact assessment (what mechanisms exist?)
*21. Identification of refineries and pipeline routes for end products
*22. Identification of entities with decision-making authority (Federal, State, and county)
*23. Identification of water sources

Note: *indicates this item did not receive any votes when individuals identified the three issues they believed were most significant.

24. Impacts to crucial and critical wildlife areas (especially Book Cliffs and White River)
*25. Impacts to elderly (how will they cope?)
26. Illegal poaching of wildlife

RANGELY

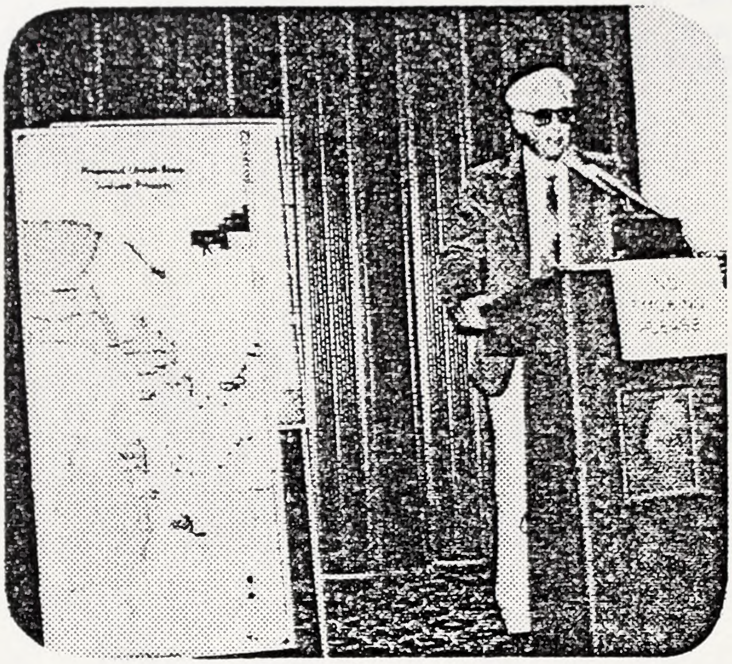
Note: Concerns listed below were raised during the general session. No work groups were formed because of the small number of attendees.

1. Impacts to Rio Blanco County, Colorado, must be adequately addressed (Project facilities will be in Utah, but impacts (especially socioeconomic) will extend into Rio Blanco County.)
2. Right-of-way stipulations should specify that companies must comply with local land use and other regulations
3. Need to discuss mitigation measures and how Federal agencies will ensure they are carried out
4. Rio Blanco County Commissioners should be consulted during the EIS process

SALT LAKE CITY GROUP 1

1. Baseline levels of social services
    - number and type of staff
    - intensity and duration
    - types of clientele
2. Need for cooperative community impact mitigation programs
3. Solid waste disposal (mining wastes, human wastes and garbage)
4. Effects of erosion and sedimentation on streams and rivers (must look at impacts in Colorado, Wyoming, and Utah to understand total cumulative effects)
5. Effects of construction, growth, development, and operation on threatened and endangered species
6. Must present workable alternatives for mitigation (especially for socioeconomic impacts)
7. Provision for affordable housing for construction and operation personnel and others who would move to the area as a result of the project
*8. Impacts of oil shale and tar sand wastewater on White and Green rivers
9. Future need and demand for social services for each alternative
*10. Advantages and disadvantages of use of common transportation corridors
11. Effects of dissolved pollutants, heavy metals, and increased salinity (especially in the Colorado River) on ground and surface water
12. Effects of flow reductions and water quality changes on aquatic life, fisheries, and adjacent habitat and vegetation
*13. Analysis of cost of growth, especially on community services and facilities
*14. Impacts of spent shale and hazardous waste disposal
*15. Develop adequate indicator rates (percent of increase over baseline) for areas such as mental health, family violence, alcohol and drug abuse, mental and physical disabilities, delinquency, and crime
16. Planned allocation of supportive resources (PSD increments, water rights, etc.)

17. Air quality impacts, such as fugitive dust, gas, water vapor-borne materials, and acid rain
18. Cumulative human population growth impacts on resident and migratory fish and wildlife species
*19. Cumulative effects of all industries planned for the Uintah Basin area (especially effects on socioeconomics)
20. Question BLM's ability to assess impacts on the whole area in only one year
21. Plans for preventing and alleviating negative impacts related to social services delivery (facilities; personnel; budgets; identification of responsible agencies, costs, and timetables)
22. Need individual EIS for each project, because the projects are located in different areas
*23. If a new community will be established, the impacts of this should be analyzed



Lloyd Ferguson, BLM Vernal District Office Manager, provides background information on the Uintah Basin Synfuels EIS.

APPENDIX B

BALLOTING RESULTS

The detailed list of issues and votes that follows was developed from ballots submitted by work group participants at the Vernal and Salt Lake City scoping meetings. (No work group session or balloting was held at the Rangely meeting because of the small number of attendees.) Only issues that received votes are shown here. A complete list of all issues raised by each work group is found in Appendix A.

A total of 87 votes were cast. They have been classified into seven issue categories: socioeconomics, water resources, fish and wildlife, air quality, project descriptions, reclamation, and miscellaneous.

(NOTE: For ease of presentation the following codes have been used in this appendix: V1 = Vernal Group 1; V2 = Vernal Group 2; S1 = Salt Lake City Group 1.)

Socioeconomics Votes	(32 votes total)	Work Group
12	Socioeconomic impacts related to housing, schools, recreation facilities, transportation systems, law enforcement (police and courts) medical services, social services, welfare, labor force and employment, water and sewer services, power	V1, V2, S1
5	Source of up-front and later funding for mitigating socioeconomic impacts	V1, V2
5	Adequacy of local planning structure to develop a multiple use plan and zoning restriction for Federal, State and private land to ensure controlled community development.	V1, V2
5	Need for adequate community impact mitigation programs cooperatively developed by State, county, city, and company representatives and capability of being enforced	V2, S1
2	Provision for affordable housing for construction and operation personnel and others who would move to the area as a result of the projects	S1

1	Adequate identification of baseline levels of social services, including number and type of staff providing a given service, intensity and duration of a given service, and number and type of client	S1
1	Future need and demand for social services for all alternatives	S1
1	Resolution of split city (Vernal) and water district controversy	V2
Water Resources	(18 votes total)	
12	Ability of existing water resources to adequately meet needs of industry and communities	V1, V2
4	Effects of project construction, operation, and maintenance on water quality (cumulative effects of erosion and sedimentation on rivers and streams; effects of dissolved pollutants, heavy metals, and increased salinity (especially in the Colorado River) on ground and surface water)	V1, S1
2	Planned allocation of water rights	S1
Fish and Wildlife	(11 votes total)	
7	Effects of construction, growth, development, and operation on fish and wildlife (including threatened and endangered species)	V1, S1
1	Perpetuation of quality of wildlife resource for consumptive and non-consumptive uses	V2
1	Impacts to crucial and critical wildlife areas (especially Book Cliffs and White River)	V2
1	Effects of flow reductions and water quality changes on aquatic life, fisheries, and adjacent habitat and vegetation	S1

1	Increased potential for illegal poaching of wildlife	V2

Air Quality (7 votes total)

6	Air quality and visibility impacts resulting from fugitive dust, gas, water vapor-borne materials, and acid rain	V1, S1
1	Planned allocation of Prevention of Significant Deterioration (PSD) increments	S1

Project Descriptions (5 votes total)

2	Validity of projects (need for realism in scenarios)	V1
1	Need for proposed actions (are there overriding national, State, or local justifications for the proposed actions)	V2
1	Need individual EIS for each project, because projects are located in different areas	S1
1	Need to identify transportation plans for product (to avoid use of water for refining in the basin)	V2

Miscellaneous (12 votes total)

3	Reclamation standards versus project life (more stringent standards will require more water and shorten project life)	V1
3	Potential redundancy of studies and analyses	V1
1	Impacts of increased recreation requirements on Federal (BLM and FS) and State lands	V2
1	Historical and cultural resource protection	S1
1	Impacts of spent shale and hazardous waste disposal	S1

1	Question BLM's ability to complete an adequate impact assessment in just one year	S1
1	Identification of impacts if just one or two projects come on line	V2
1	Should the commercial aspect of synfuels be the major concern? (No pilot plants have produced commercially usable products or by-products.)	S1

APPENDIX C

SUMMARY OF WRITTEN COMMENTS

Board of County Commissioners of Rio Blanco County, Colorado - Rangely, Colorado

The statement of Chairman Kenneth O. Kenney stressed that the environmental impact statement must consider impacts on the physical and human environment, people, and governmental entities of western Colorado. It must examine socioeconomic impact mitigation measures and Federal agencies' roles in ensuring that adequate mitigation plans are developed and implemented in all areas affected by the proposed projects, especially Rio Blanco County.

Uintah Basin Oil Shale Planning Project/Utah Department of Social Services - Salt Lake City, Utah.

The comments from this group focused on socioeconomic concerns. Issues that the group felt should be considered are excerpted below:

> Human services are those personnel, facilities and resources in both public and private sectors devoted to meeting service needs in areas of: health, education, employment, law enforcement and justice, and welfare and social services. In projecting future need and demand for human services in a locality, the following must be considered:
>
> 1) What are baseline or current levels of service? What numbers and types of staff are providing what types, intensity and duration of service to what numbers and types of clients or consumers?
>
> 2) Measured against standards of service, how adequate are current levels of service?
>
> 3) Given projected changes in the total population and in demographic composition of the population, what will be the future need and demand for services for each of the proposed alternatives?
>
> 4) What plans can be developed for meeting such future need and demand for services? What changes in facilities, budgets, and other factors related to service-delivery (e.g., transportation) will be required for each of the alternatives?
>
> Quality of life involves both qualitative and quantitative sociocultural measures and judgements regarding actual and preferred lifestyles. Consideration of quality-of-life factors should include:

1) What are baseline or current indicators of individual and community functioning? Included here are levels of stress; rates of suicide, child abuse, alcholism, crowding or "elbow room," marriage and divorce, morbidity and mortality, etc.; degree of community consensus and integration; presence or absence of newspapers, libraries, recreation, higher education, churches, and other amenities.

2) What are the attitudes of residents, community leaders, industry officials, and others toward the community and its adequacy in providing desired lifestyles?

3) Given projected changes in these measures of quality of life attributed to the proposed alternatives for resource development, what plans should be made to insure the most benefit for the most people? What strategies can be utilized to prevent negative impacts and to promote the positive impacts of growth?

4) How can indicators be monitored and reassessed? How can strategies be directed to improve functioning toward achievement of individual and community goals?

Generally speaking, a baseline service or indicator should be considered within the scope of a socioeconomic study if:

1) it is related to the proposed project or any project alternatives; for example, many questions have been raised about water quality problems caused by synfuels development. Thus, the level of service within the public health sector of water quality testing and regulation is relevant and should be included.

2) it is expected to change in the future due to direct or indirect project impacts; for example, outmigration of 18 - 20 year olds might be expected to decrease as more employment opportunities open up.

3) it is significantly different from comparable areas; for example, the per capita personal income is lower in San Juan County than in any other Utah county. The indicator should be tracked for projects in that county whether or not the project is expected to result in changes in average income.

4) it has been identified by local survey or in comparable growth areas as a priority; for example, several boomtown studies have pointed to traffic as a major source of dissatisfaction with project impacts. Traffic volume and noise, especially at rush hour, might be a required indicator in any rural community expected to grow at boomtown rates.

This approach to socioeconomic planning is represented by the following outline:

1) Assessment

a) Baseline descriptions including:
(1) indicator rates: health (mortality, morbidity, treatment rates), mental health (suicide, depression), family life (divorce, abuse and neglect, size), crime and delinquency, mental and physical disabilities, alcoholism and drug abuse, educational attainment, church and community participation, citizen attitudes and preference, etc.

(2) provision of treatment and supportive services by governmental and private sources and informal sources according to levels of services provided, funding, and eligibility. The pre-growth adequacy and variety of such services must be addressed.

b) Projections of increases or changes caused by expected growth (by time frame and geographic area):
(1) changes expected in each of the baseline indicator rates and need/demand for services;
(2) rationale for magnitude and direction of predicted changes. Rationale should include temporary and permanent increase/decline in total population, changing demographics of population, development of new programs or funding sources, etc.

c) Plans for preventing and alleviating negative impacts of predicted changes to include:
(1) identification of responsible agents, costs, and timetables;
(2) facilities, personnel, and other requirements (skills, communications, procedures, etc.);
(3) standards and criteria for evaluation of effectiveness.

2) Monitoring

a) Detect changes in baseline rates and needs for services.

b) Compare actual changes to predicted changes.

c) Adjust mitigation plans and strategies to meet new demands.

3) Management

a) Involve in planning and implementating the following:
   (1) service providers;
   (2) industry representatives;
   (3) citizens;
   (4) elected and other officials;
   (5) government personnel from all levels and types of agencies affected;
   (6) outside resource persons.

b) Develop data systems and documentation for decisions, agreements and procedures.

c) Coordination within the human services system to provide for:
   (1) contacts, communication, and commitment to common concerns;
   (2) negotiation, priority setting, a common agenda, and consensus;
   (3) processes for participation and for evolution of leadership.

Utah Nature Study Society - Salt Lake City, Utah

The Utah Nature Study Society believes the EIS should address (1) the timetable for water requirements for each project; (2) the use of that water; (3) the sources for that water besides the White River; (4) a commitment from the developers to use sources other than the White River for their requirements; and (5) a commitment from the developers to protect the riparian zone along the White River. In addition, the group raised a series of questions related to land use management: Will land managers take steps to prevent destruction of desert rangelands and riparian habitat by off-road vehicles? Will there be increases in Bureau of Land Management personnel to prevent off-road vehicle damage? Will there be increases in Utah Division of Wildlife Resources personnel to monitor the region and prevent poaching of animals? Will there be increases in personnel to monitor the White River recreation area? Will the increases in personnel occur before or after destruction has occurred?

Several recommendations were included in the group's letter. They believe a White River management plan and Uintah Basin rangeland management plan should be completed at the same time as the EIS. They also believe the developers should not be granted right-of-way permits unless they negotiate a contract to preserve the environment, absorb the cost of electrical power development so it is not passed on to consumers, and take steps to prevent local taxes from rising.

Colorado Department of Natural Resources - Denver, Colorado

The Department of Natural Resources requested that the EIS consider means of mitigating Utah and Colorado impacts related to (1) population growth, capacity of public infrastructure to handle this growth, and availability of front-end and continued funding to finance additional public facilities and housing; (2) air population; and (3) increased road traffic and consequent potential increases in highway maintenance costs.

It was suggested that work done by the Cumulative Impacts Task Force would be useful in dealing with problems of financing public infrastructure and housing and a contact person was identified.

In addition, the following general list of items that should be addressed in the EIS was included:

1. Comprehensive Analysis of Impacts of Proposed Developments

   Air quality.

   Surface and ground-water quality.

   Availability of surface water for proposed projects, the impacts of surface impoundments and diversions to make water available, and the consequences for agriculture and towns of the use of water by the proposed projects.

   Wildlife and plants, including deer, elk, and other important game and non-game species, as well as State and Federal threatened and endangered and proposed threatened and endangered species.

   Soils and vegetation; soil erosion impacts.

   Handling of mine wastes, long-term stabilization and reclamation, leaching problems, and innovative approaches to disposal of spent shale.

   Health and safety of workers and of general public, including possible problems arising from toxic and carcinogenic materials in oil shale.

   Labor requirements of resource development projects, in total and by major categories.

   Availability of local labor; need for training/upgrading programs; need for an improved labor force; effects of competition for labor on existing industry and agriculture.

   Amount and distribution of increased population during ocnstruction and operation of the facilities.

   Need for housing of new population; availability of construction and mortgage financing; effects on the availability of financing for other economic activities.

Need for new community facilities such as schools, water and sewer systems, health care facilities, and other public facilities.

Financial burdens on local governments--counties, towns, school districts, and other special districts--for building these facilities and for providing increased services.

"Lead time" problems arising when the need for increased services and facilities occurs before increased tax revenues are available.

"Jurisdictional mismatch" problems arising when impacts occur in one political unit (State, county, town, etc.) and the facilities are located in another political unit; thus the impacted area lacks the increased tax base and regulatory control over the project.

Impacts on the local economy, including agriculture, hunting, and tourism.

Effects on local land values.

Social impacts.

Impact of oil shale development upon development of other resources, i.e., oil and gas in deeper beds.

Capability of existing transportation systems to handle increased traffic needs for and financing of new or expanded facilities.

Increased need for mineral construction materials; availability of materials; and location of materials.

Likelihood that upgrading and refining facilities will be constructed in the area as a result of the proposed projects; environmental and socioeconomic impacts of such facilities.

New energy requirements by fuel type and electrical generating capacity for the development and for resulting community growth; effect of co-generation on total generating capacity.

A new energy analysis of the site-specific resource development, including consideration of secondary energy impacts.

Determination and quantification of the conservation potential of actions as an alternative to the proposed resource development.

Assurance of energy efficiency in all operations of the proposed development, resulting community infrastructure, and transportation considerations, especially commuting (to include ridesharing potential).

2. Often the secondary impacts--arising from increased population in the area of a project--are important as the direct impacts of the facility itself. The EIS should analyze these impacts in depth. This analysis should include but not be limited to discussions of:

   - road kill and poaching of wildlife
   - urbanization of important wildlife habitat and agricultural lands
   - air quality in towns
   - water demands of secondary growth
   - secondary water pollution as a result of population growth, e.g., increased volumes of sewage and changed character of surface water
   - changing patterns of land use; effect on food production
   - increased road traffic and resulting increases in the cost of road maintenance and school transportation
   - rising wage levels and consequent impacts on the availability of labor for agriculture, public sector employment, and other sectors of the economy with moderate wages
   - geologic factors impacting construction of ancillary facilities, i.e., subdivisions, roads, pipelines, etc.

3. Cumulative Impacts

   The EIS must consider the proposed actions in the context of other growth in the oil shale region, including the development of oil and gas, tar sands, coal, power plants, tourism and recreation facilities, and their secondary impacts.

4. Mitigating Measures

   CEQ regulations provide that mitigating measures must be thoroughly treated in an EIS. It is particularly helpful for EIS's to consider both "committed mitigation"--i.e., mitigation required by law or required as part of the proposed action--and "uncommitted mitigation"--i.e., other mitigating measures--which could be undertaken to moderate negative impacts from the proposed action. State agency specialists are available to assist in defining possible mitigation strategies.

Town of Rangely - Rangely, Colorado

The Town of Rangely believes it will be one of the primary entities that will be affected by Uintah Basin synfuels developments and is concerned that the EIS present a comprehensive, objective socioeconomic analysis for the region. The Town believes the EIS should address mitigation measures and the role of Federal agencies in ensuring the measures are implemented. The agreement recently negotiated between Western Fuels and Rio Blanco County, the Town of Rangely, and the special county districts was recommended as an example of a plan that addresses mitigation justly, practically, and effectively. It was noted that neither the Town nor the County had any authority to require mitigation for project impacts in Colorado, so both were relying on the Federal government to authorize such a program.

U.S. Fish and Wildlife Service - Salt Lake City, Utah

The Fish and Wildlife Service's principal interest and responsibilities lie with threatened and endangered plant and animal species, migratory bird species that are substantially dependent on habitats in the Uintah Basin area, and nonmigrating birds or mammals whose presence in this environment is fragile or whose presence will be reduced significantly by surface disturbance of large areas. Major sources of direct impacts to these species are surface disturbance, water needs, and increased work force and families. Major sources of indirect impacts are leisure time needs of workers; sources of raw materials for construction; transportation networks for mining, workers, equipment, and products; and support facilities, businesses, and new housing required for the development.

The following major issues were identified:

1. Surface disturbance of extensive land areas associated with oil shale or tar sand development: This is a long-term impact. Area affected may be extremely difficult to rehabilitate. A number of species of T&E animals and plants or candidate species of plants for T&E status could be affected. As an example, tracts Ua/Ub if mined as planned would affect approximately 30 percent of the surface area. Projected over the extensive reserves in the Basin, the impact is immense.

2. Surface water supplies are limited. Sufficient water for increased industrial and human needs will require additional reservoir construction or ground water development. Damming the White River will affect certain T&E species and reduce riparian habitats. Similarly, reducing instream flows could affect T&E species and impact riparian vegetation. Water projects needed for synfuels will produce mixed impacts on wildlife.

   - Bald eagles winter in this area and could be affected.
   - Endangered species of fish will likely be negatively affected.
   - Migratory bird species may use this area as an intermediate rest area during migration. The area would still be limited by feeding areas and nesting areas.

3. Wildlife populations will respond inversely to the amount of habitat disturbed. The amount of change will be correlated to the amount of habitat disturbed and the importance of that habitat.

   Antelope and other wildlife populations could be affected by the large amount of suface disturbance proposed. Increased dispersed water supplies could be beneficial to some species. Low mobility species will be reduced in direct proportion to the area affected.

   - Increased competition for legal harvest of wildlife will be aggravated by illegal harvest or reduced populations due to lowered natality, increased mortality, or both.

4. Increased human populations will required additional space for housing, increased water supplies, etc. Increased labor forces will require additional increases in people for support facilities.

5. Cumulative impacts should include all projects including non-Federal developments.

   Similar synfuel developments are planned for Colorado and Wyoming lands. Water demands of those projects would further reduce instream flows of Utah rivers. We are concerned that the combined impacts of all primary and supportive projects combined with nonpoint (secondary) impacts will outstrip wildlife's ability to adapt, or that the time required for reclamation to produce lands capable of supporting wildlife will result in a long-term depressed condition.

United States Environmental Protection Agency - Region VIII, Denver, Colorado

One of the Environmental Protection Agency's (EPA) primary environmental concerns relative to developing an oil shale industry in the Uintah Basin is the handling of solid and hazardous waste. Solid waste types expected are processed shale, raw shale fines, spent catalyst and various sludges.

Solid waste management practices on public lands should basically be in compliance with applicable State and local regulations, EPA's Guidelines for the Thermal Processing and Load Disposal of Solid Wastes, and EPA's Guidelines for Solid Waste Storage and Collection.

Minimum Requirements

The applicnts need to provide the following information for EPA to evaluate the waste management problems:

1) inventory and characterization of the wastes to be disposed of and method of disposal

2) results of performance of infiltration tests of alternative sites

3) proposals for performance of regular tests to track the build up of moisture in disposal piles and monitoring of ground-water quality in near-surface aquifers

4) proposals for routine determination of sediment in surface runoff from disposal facilities.

The following major issues were identified:

Leaching and/or surface runoff of salts and metals from spent and raw shale piles and contamination of ground or surface waters through mishandling of hazardous materials.

A reasonable spent shale and tar sands open pit mine revegetation plan.

Comprehensive mine abandonment plan which includes elements dealing with mine sealing, ground-water monitoring, and reclamation of mine entrance and exit areas.

Protection and enhancement of water quality. All point source discharges will be subject to the requirements of a National Pollution Discharge Elimination (NPDE) permit.

Thorough and accurate data analysis on quantity and quality of surface water resources.

Impacts that affect ground water are subject to the Resource Conservation and Recovery Act and the Underground Injection Control regulations.

Water quality standards--existing stream classifications and uses should be delineated for water courses and water bodies. All areas will be included in the Clean Water Act water quality management plans.

Inventory of fish species and description of their economic or recreational importance.

Salinity is the major, basinwide, water-quality problem in the Colorado River system. The seven basin states have adopted salinity standards which have been approved by EPA. EPA also requires compliance with Section 313 of the Clean Water Act. EPA recommends the DEIS contain an evaluation of alternatives which minimize consumptive water use.

A spill prevention and control regulation plan (40 CFR 109) are required to EPA.

Emissions of currently unregulated but potentially hazardous pollutants need to be characterized and controlled.

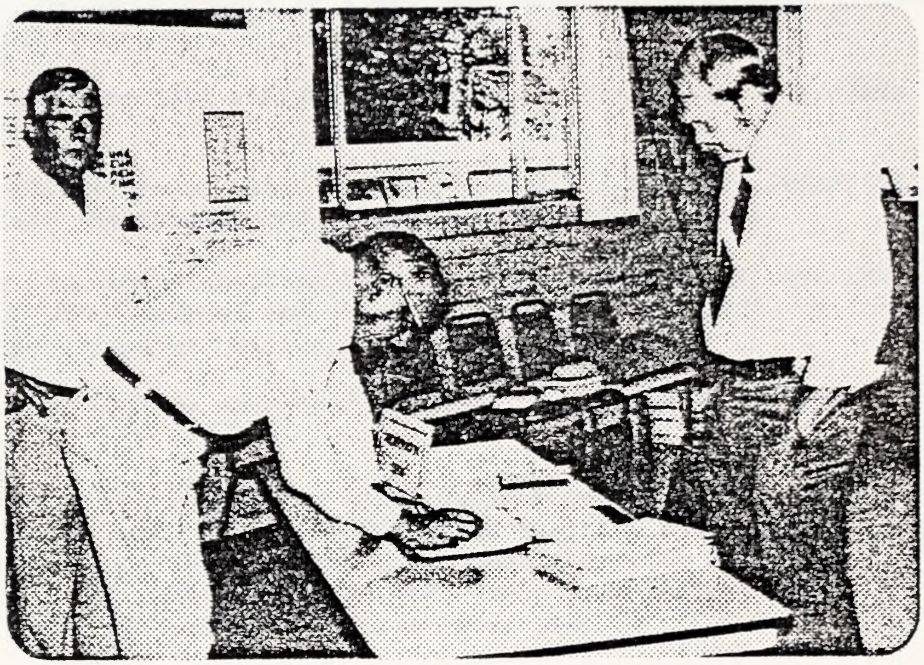
DEIS should discuss and analyze potential air quality impacts on Flat Tops Wilderness area and implications of PSD increment consumption in Colorado as part of cumulative impact analysis.

Toxic Substances Control Act--several shale oils are listed on Toxic Substances Inventory which exempts them from premarket notification and testing requirements. But if EPA finds manufacture, processing, distribution, use or disposal of a chemical presents an unreasonable risk of injury to health or to the environment, it can take one of several regulatory actions.

Pesticides are potential water pollutants and air contaminants; all proposed pesticide uses need to be identified and described in the DEIS.

An extensive sound level survey needs to be conducted where public health may be affected.

Direct or indirect support of floodplain or wetlands development needs to be avoided (Executive Orders 11988 and 11990). An assessment must be made if an agency determines that a proposed action is located in or affects a floodplain or wetplains.



A citizen registers at the Vernal, Utah, scoping meeting.

APPENDIX D

SCOPING MEETING ATTENDEES

Vernal, Utah - August 4, 1981

NAME	REPRESENTING
Lloyd Ferguson	BLM Vernal District Office
Neil B. Young	Laramie Energy Tech Center
Kenneth A. Winder	Moon Lake Electric
Ralph H. Taylor	Moon Lake Electric
Gail Moore	Desert News
Harry McCarthy	Magic Circle
Reed Clayson	Magic Circle
Joe Merino	Tosco Corporation
George Kane	Tosco Corporation
John Hopkins	Tosco Corporation
Janet Jacobson	Tosco Corporation
Charles B. Casper	Tosco Corporation
William E. Hawes	Sohio Shale Oil Company
Steve Cranney	Utah Division of Wildlife Resources
Neal Domgaard	Uintah County
Beckee Beemer	Natomas Energy Company
Bill Sharrer	Geokinetics, Inc.
Bob Dudiak	Sohio Shale Oil Company
Jim Godlove	White River Shale Project
Jim Butler	U.S. Forest Service
Bob Gilbert	White River Shale Project
E.S. Mihelich	Quintana Minerals
Dan Dilsaver	U.S. Department of Energy - L.E.T.C.
Linda Limbach	Paraho Development Corporation
R.N. Heistand	Paraho Development Corporation
Rod Rozier	self
A. Tuinman	Western Tar Sands
B. Cooke	State of Utah
H. Welch	State of Utah
F.W. Burgess	Utah Department of Transportation
Jackie Robbins	Uintah Basin Energy Council
Gale Robbins	Uintah Basin Energy Council
Donald G. Prince	Utah Divison of State Lands
C.R. Henderson	Uintah Basin Energy Council
Thom Slater	Bureau of Land Management - Utah State Office
Dave Moore	BLM Vernal District Office
Dean Evans	BLM Vernal District Office
Art Ruth	Environmental Impact Statement Office
Roger Carmichael	Environmental Impact Statement Office
Jack Edwards	Environmental Impact Statement Office
Richard Traylor	Environmental Impact Statement Office
Lois Cocker	Environmental Impact Statement Office

Rangely, Colorado - August 5, 1981

NAME	REPRESENTING
Lloyd Ferguson	BLM Vernal District Office
E.S. Mihelich	Quintana Minerals
D.M. Cover	Gulf Oil
K.O. Kenney	Rio Blanco County
Reed L. Clayson	Magic Circle
Richard M. Arcand	Bureau of Land Management - Craig District Office
Vicki Kellerman	National Park Service
Linda Limbach	Paraho Development Corporation
Thom Slater	Bureau of Land Management - Utah State Office
Dave Moore	BLM Vernal District Office
Dean Evans	BLM Vernal District Office
Art Ruth	Environmental Impact Statement Office
Roger Carmichael	Environmental Impact Statement Office
Jack Edwards	Environmental Impact Statement Office
Richard Traylor	Environmental Impact Statement Office
Lois Cocker	Environmental Impact Statement Office

Salt Lake City, Utah - August 6, 1981

Lloyd Ferguson	BLM Vernal District Office
Beji Malek	Cities Service Company
Ralph Feeney	Standard Oil of Indiana
Rusty Lundberg	Geokinetics, Inc.
Jon W. Bartley	Sierra Club
Jim Florillo	Science Applications
Jim Munson	U.S. Fish and Wildlife Service
Bob Dudiak	Sohio Shale Oil Company
Maurice A. Richard	Natomas Energy Company
Ben Polock	Enviro-Clear
Gary Tomsic	State of Utah
George Wolf	Syntana - Utah
Reed Clayson	Magic Circle
J.A. Lamping	Standard Oil of Indiana
A.P. Eddy	Tosco Corporation
Charles B. Casper	Tosco Corporation
Karl Augustine	Utah Department of Social Services / Uintah Basin Oil Shale Planning Project
William E. Hawes	Sohio Shale Oil Company
Victor Yamada	Rockwell International
R.N. Heistand	Paraho Development Corporation
Thomas Jackson	VTN Consolidated
Jim Grambihler	Utah Petroleum
Ralph Deleonardis	Sohio Shale Oil Company
Jay White	VTN Consolidated
Donna Stevens	University of Utah

NAME	REPRESENTING
Thom Slater	Bureau of Land Management - Utah State Office
June Wickhan	Utah Environmental Center
Dick Merrell	Utah Department of Community and Economic Development
Roy F. Neyer	U.S. Department of Energy - SCSD
Joe Merino	Tosco Corporation
Dean Evans	BLM Vernal District Office
Art Ruth	Environmental Impact Statement Office
Roger Carmichael	Environmental Impact Statement Office
Jack Edwards	Environmental Impact Statement Office
Richard Traylor	Environmental Impact Statement Office
Lois Cocker	Environmental Impact Statement Office

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